

NAME:

PERIOD:

VIRTUAL BODY: THE HUMAN SKELETON

<http://www.medtropolis.com/VBody.asp>

BONES NARRATED

The human skeleton was created to withstand the hard knocks of life. An engineer's dream, the skeletal system provides a _____ for the human body, _____ vital organs and with muscles, tendons and ligaments attached, allows human beings to _____, lift, reach and throw. The _____ protects our brain, the _____ protects our heart and the _____ protects our spinal cord.

Throughout history, we have learned about our predecessors, including prehistoric man, by studying the only physical remnants of early humans, their _____.

The skeleton of humans and other species inspired great artists like Michelangelo, Rodin and _____, who studied the skeleton and _____, imbuing them with their own unique images.

The skeletal system produces blood cells: _____ blood cells, _____ blood cells and blood _____. Bones also store inorganic salts. Bone _____ assists in blood clot formation, the conduction of _____ impulses and the contraction of _____ cells.

Bone cells called osteoclasts _____ bone tissue and cause calcium salts to be released in the blood, building up the blood's _____ supply. If the blood's calcium level is too high, other cells, _____, are stimulated to form bone tissue, reducing the blood level.

The skeletal system begins to form during the first few weeks of _____ development and bones continue to grow into adulthood.

Each person has about _____ bones, though some people have more and some people have less. The human skull has _____ bones, our backbone or vertebral column has _____ bones and we even have a total of 6 tiny bones that conduct sound waves in both of our _____!

Healthy bones require _____, _____ and vitamins D, A and C. Vitamin D is needed for absorption of calcium in the _____. Vitamin A is necessary for the resorption of bone or bone _____ that occurs during normal growth, and vitamin C is important for synthesis of _____, which gives bones their _____ and resilience. _____ causes the bone tissue to thicken and strengthen, Male and female hormones, androgens and estrogens, _____ the formation of bone tissue.

The next time you're running, chewing or reaching for something, remember how your bones, and their intricate connections, have given you the miracle of _____, _____ and _____.

BUILD A SKELETON

1. How long did it take you to rebuild a skeleton the first time? The second time?
2. How many bone groups needed to be dragged into place?
3. What does the skeleton do when he is rebuilt properly?

ZOOM IN

Anterior Skull

1. When you first put the mouse over the skull, it has colored sections. List the bone with the following colors:
 - a. Pink:
 - b. Orange:
 - c. Yellow:

Vertebral Column

2. How many parts is the vertebral column composed of?
3. What is the lowest part called?

Bones of the Thorax

4. How many pairs of ribs does the human skeleton have?
5. Coastal cartilage connects the ribs to a bone called the _____

Bones of the Arm

6. List the 5 bones of the arm:

The Pelvis

7. Describe where the pelvis is located.

Bones of the Leg

8. List the 4 bones of the leg:
9. What is the name of the bone found above the knee joint?

Bones of the Hand

10. What bones are located in the wrist?
11. What bones make up the finger tips?

Bones of the Foot

12. What 2 sets of bones are found between the metatarsal bones and the distal phalanges?

EXTRA CREDIT

Draw a skeleton and label the main parts.

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THE VIRTUAL BODY: DIGESTIVE TRACT
<http://www.medtropolis.com/VBody.asp>

GUIDED TOUR (Use the information to fill in the blanks)

The human digestive system is composed of many parts that work together, slowing the intake of food to _____ and give _____ to the body.

Beginning at the mouth, the _____ canal is a remarkably efficient passageway, extracting precious _____ and discarding unneeded _____ from the body.

Digestion begins with your imagination! Merely thinking of a juicy, cool watermelon on a hot day causes you to _____. And salivation releases _____ that will later assist in the digestion of the watermelon.

The alimentary canal is a muscular tube about _____ feet long and includes the mouth, pharynx, _____, stomach, small intestine and _____ intestine.

When you take a bite of food, the salivary glands secrete saliva. Saliva _____ the food and begins the actual process of _____.

Once the food is chewed and moistened, it forms into a mass or _____. The tongue forces the food into the back of the mouth or _____. A swallowing reflex occurs and the food moves through the esophagus to the stomach by _____ or propelling movements.

The stomach receives the food and mixes it with _____ juices, creating a mixture called _____. The chyme moves from the stomach to the small intestine by peristalsis.

Once in the small intestine, the chyme stimulates the release of digestive enzymes from the _____ and bile from the _____. The bile salts _____ fats, which help in the absorption of fatty acids, cholesterol and some _____.

The small intestine, which fills most of the abdominal cavity, is _____ long, but loops and _____ to fit in a small space. It is comprised of three parts: the duodenum, the jejunum, and the _____.

The small intestine is the most important _____ organ of the digestive tract. While carbohydrate digestion begins in the _____ and protein digestion starts in the _____, both are completed in the small intestine, where particles are absorbed by small blood vessels or _____. _____ are also digested in the small intestine.

Finally, the contents of the small intestine move into the large intestine, which is about _____ feet long. The large intestine, also called the _____, is comprised of four sections – the ascending colon, transverse colon, descending colon and the _____ colon.

The large intestine has little or no digestive function. In the large intestine, the chyme becomes _____, which is then stored until _____ occurs.

The human digestive system, from beginning to end, allows us to use our food sources in the most efficient way to give us _____ in our daily lives.

ZOOM IN

1. How many salivary glands are there?
2. What are the 2 types of muscle that make up the esophagus?
3. What is another name for the vocal fold?
4. Which lobe of the liver is smaller?
5. What is the name of the small round green organ at the bottom of the liver?
6. What holds the right and left lobe of the liver together?
7. What is the name of the sphincter that leads from the stomach into the small intestine?
8. Describe the texture of the inside of the stomach.
9. List the 3 parts of the small intestine.
10. Which part of the large intestine is the appendix attached to?
11. Which part of the large intestine is closest to the rectum?

ORGANIZE YOUR ORGANS

1. Draw a picture of your digestive system labeling the following items: liver, gall bladder, stomach, small intestine, large intestine, rectum, and esophagus.

2. How long did it take you to put the digestive system back together?